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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Michael Frank

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EXAMINER

DINH, NGOC V

ART UNIT

PAPER NUMBER

2189

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/963,861

Applicant(s)

FRANK ET AL.

Examiner

NGOC V. DINH

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-12,15-25,27 and 28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-25 and 27 is/are allowed.
- 6) ☒ Claim(s) 1,4-12,15-18 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

FINAL REJECTION

1. This Office Action is responsive to Applicant's request for mailing of replacement final office action filed 05/03/2006 due to the typo graphical error in The Examiner's previous office action, in which claims 20-25 depend from allowed claim 19 and those claims are allowable instead of rejection.

Applicant's arguments filed 04/28/05 have been considered by the Examiner and are deemed persuasive. Accordingly, the rejection of claims 1-4-12, 15-18, based on Parks et al et al in the office letter dated 01/04/05 is respectfully withdrawn and the following rejection based on Kumar et al is applicable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1, 4-5, 7-12, 15-18, 28 are rejected under 35 U.S.C.102 (e) as being anticipated by Kumar et al PN 6,237,064.

As per claim 1, Kumar discloses a method comprising the steps of:

receiving a first request to access data from a first memory device; preparing the first request for the data for access through the first memory device providing a second request to access the data from a second memory device, wherein the second request is provided concurrently with the step of preparing the first request [e.g., the present invention reduces cache latency by paralleling various memory accesses initiated by the execution unit 180. At stage 0, the execution unit 180 issues a memory request to the L0 queue 157 of the L0 cache 155, which receives the request during stage 1 of the pipeline

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300. To reduce latency, and thereby conserve clock cycles, the same memory request is simultaneously issued to the next-level cache memory, col. 3, lines 42-50; also see: abstract; col. 4, lines 14-20; col. 5-6, claims 1, 17];

receiving a first notification that the data associated with the first request is available from the second memory device [col. 4, lines 37-65]; and discarding [e.g., aborted] data received from the first memory device in response to the first notification, wherein the discarded data is associated with the first request [col. 4, lines: 30-35, 44-48; claim 9, lines 10-12]

Kumar further discloses:

As per claims 4, 15, the data is discarded at a memory controller [col. 4, lines 33-36].

As per claim 5, the data in the second memory is coherent with the data in the first memory [col. 4, line 66-67, to col. 5, lines 1-5].

As per claims 7, the second memory includes cache memory [fig. 1].

As per claim 8, a memory controller associated with the first memory device terminates the memory request in response to the termination [col. 4, lines 33-35].

As per claims 9, 16, the first request is generated by a client on a system bus [the execution unit 180 accesses information from the caches 135, 140, 155 and the main memory 105, col. 3, lines 32-35].

As per claims 10, 17, the memory request includes a multi targets memory request [col. 4, lines 14-17].

As per claims 11, 18, providing the second/third request to a bus interface unit [bus controller, fig. 1], wherein the bus interface unit is coupled to the second memory device [bus controller (130) and main memory (105), fig. 1]

As per claim 12, Kumar discloses a method comprising:

receiving a first request to read data from a memory device; preparing a second request, based upon the first request, for transmission to the memory device [col. 3, lines 42-50];

delivering a third request, based upon the first request, for data from a cache memory, the third request being delivered concurrently with the preparation of the second request [col. 4, lines 14-20];

providing, in response to the first request, data from the cache memory when the data stored in the cache memory is coherent with the data stored in the memory device [to ensure that the caches 155, 140, 135 and main memory 105 are coherent, the present invention includes snoop logic (not shown) that monitors all the addresses that are snooped; col. 4, lines 66-67; col. 4, lines 23-27]

discarding data received from the memory device when data is provided from the cache memory, wherein the discarded data is associated with the second request [col. 4, lines 23-33] ; and providing, in response to the first request, data from the memory device when the data stored in the cache memory is not coherent with the data stored in the memory device [to ensure that the cache 155, 140, 135 and main memory are coherent, col. 4, line 66 to col. 5,10].

As per claim 28 basically are the corresponding elements that are carried out the method of operating steps in claims 12. Accordingly, claims 28 is rejected for the same reason as set forth in claim 12.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claim 6 is rejected under 35 U.S.C 103(a) as being unpatentable over Kumar.

As per claim 6, Kumar did not explicitly disclose the first memory device includes random access memory. However, RAM is a well-known feature in the computer architecture art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include RAM into Kumar's system so that to provide for faster overall system performance.

Allowable Subject Matter

4. The primary reasons for allowance of claim 19 in the instant application is the combination with the inclusion of the limitation of "generate second identifier using said notification; store said second identifier as part of a kill list, wherein said kill list identifies requested to be terminated, and terminate the first request based on the kill list". Claims 20-25, 27 are allowable since those claims depend on allowed claim 19.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Koutsoures PN 6,457,075 discloses synchronous memory system with automatic burst mode.
- b. Milway et al PN 6,470,428 discloses sequential memory access cache.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire **THREE MONTHS** from the date of this action. In the event a first response is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than SIX MONTHS from the date of this final action.

Any response to this action should be mailed to:

Under Secretary of Commerce for intellectual Property and Director of the
United States Patent and Trademark Office

PO Box 1450

Alexandria, VA 22313-1450

or faxed to:

(571) 273-8300, (for Official communications intended for entry)

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PMR) system. Status information for published Applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pak-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc Dinh whose telephone number is (571) 272-4191. The examiner can normally be reached on Monday-Friday 8:30 AM-5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald Bragdon, can be reached on (571) 272-4204.



NGOC DINH

Patent Examiner

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August 01, 2006



REGINALD BRAGDON
SUPERVISORY PATENT EXAMINER
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